New Hampshire Coastal Program/New Hampshire Estuaries Project
NH Office of State Planning

Tidelines

Spring/Summer 2002

Photo courtesy of Joanne McLaughlin

Manager's Musings

Notice Received for 2002 Coastal Funding

News of substantial increases for the Coastal Program activities means it's a bright future for the NH Coastal Program. Federal funding is up 29% over last year, at almost $1.4 million. Special thanks to our Congressional Delegation, Senators Gregg and Smith, and Congressmen Sununu and Bass. We appreciate your support.

One interesting new activity will be funding new staff at the Department of Environmental Services for enforcement activities throughout the coastal watershed. Limited to doing projects in the 17 coastal communities, the Coastal Program has never been able to support activities in the upstream watershed. However, the newly approved Coastal Nonpoint Pollution Control Program encourages developing strategies that apply throughout the watershed-to all 43 watershed cities and towns. A new staff person will be stationed at the Pease office of DES to assist in basic enforcement of wetlands, site specific and shoreland protection rules. The benefit is cleaner waters throughout the coast.

Due to the substantial increase in funding, the Coastal Program is soliciting new projects from the watershed communities as well as from the traditional ones. Be on the lookout for future announcements of grant assistance availability. And, feel free to contact any of our staff members regarding potential projects.

Gulf of Maine Council Receives EPA's Environmental Merit Award

I received notice from Bob Varney, Regional Administrator of the Environmental Protection Agency in Boston, that the Gulf of Maine Council is being given the prestigious Environmental Merit Award "in recognition of its exceptional work and commitment to the environment in 2001." Congressman Tom Allen from the State of Maine made the nomination.

Invitees to the awards ceremony included the seven members of the original group, including Dave Hartman, who originally proposed forming the Gulf of Maine Council. The group represented coastal and marine interests of states and provinces around the Gulf of Maine. Their vision of a council to deal with emerging issues of common interest throughout the region formed the basis for the creation of the Gulf of Maine Council on the Marine Environment. Governors and Premiers signed the Agreement 12 years ago to establish the Council.

The 32nd Anniversary Merit Awards were presented at a ceremony at Faneuil Hall in Boston on May 1, 2002.

Sea Kayakers Take to the Gulf!

By Natalie Springuel

Starting this month, a group of sea kayakers are traveling the entire Gulf of Maine from Cape Cod Massachusetts to Cape Sable, Nova Scotia; 1300 miles in five months. The Gulf of Maine Expedition is organized to raise awareness and caring about the ecology and cultural legacy of the Gulf of Maine watershed.

Why the Gulf of Maine?

Communities along the rim of the Gulf faced dramatic changes in their traditional seafaring culture during the second half of the twentieth century. Many fisheries were exhausted causing people to explore alternatives. As a result, new fisheries emerged from previously unmarketed species. Aquaculture farms were established in many bays and coves. The Internet gave the economy a boost, and tourism hit the scene. The Gulf of Maine is of immense value for New England, Canada, and the world.

Ecotourism and outdoor recreation are increasing at a rate faster than any other form of tourism. Tourists and outdoor enthusiasts, with education and information, have the potential to be the greatest conservationists for the Gulf of Maine.

What are the Goals of the Trip?

- To encourage people who live, work, learn and recreate in the Gulf of Maine to become engaged in the decision-making processes that affect coastal communities
- To train sea kayakers in safety skills and Leave No Trace ethics so their behaviors become models for responsible recreation
- To monitor and record island conditions and recreational use patterns
- To document personal accounts from those living and working in the Gulf to help the general public gain an understanding of the changing face of coastal communities
- To train those who join the expedition to become outdoor leaders

How Are We Accomplishing Our Goals?

- Every two weeks, the Expedition is stopping in a seaside community for public education programs and information gathering. Day-long workshops for adults and children are highlighting various aspects of Gulf of Maine ecology, existing Gulf projects, on-the-water safety skills, and zero-impact ethics
- We are connected to the Web for regular updates on our progress
- We are keeping a daily log of environmental data including coastal land-use patterns, recreational use of islands, wildlife sightings, plankton counts, weather patterns, sea conditions, water quality, and shoreline ecology
- Our success relies on sponsorship from outdoor equipment companies, communications and scientific equipment manufacturers

Who is the Gulf of Maine Expedition Team?

Our team is comprised of up to eight paddlers at any one time. At least ½ the team are experienced paddlers, instructors or educators. Participants are encouraged to join the expedition for one month. College students are invited to participate for college credit.

When Are We in New Hampshire? The Seacoast Science Center in Rye is hosting a Gulf of Maine Day with special Expedition guests on either May 25 or June 1. Call the Center for details 603-436-8043 or call the Expedition 207-288-4205.

New Hampshire's Sea Level May Rise Two Feet by the End of the Century

If the preliminary research proves true, more than one thousand acres of New Hampshire's coastal communities are in danger of sea level flooding by 2100 due to global climate change. Recent studies predict an astonishing two-foot sea level rise by the end of this century.

The New Hampshire Coastal Program and the New Hampshire Office of Emergency Management are releasing a report, by Dr. Larry Ward of UNH's Jackson Estuarine Laboratory, that compares sea level fluctuations and tidal flooding over the last 12,000 years and evaluates the impact of future sea level rise in New Hampshire. Though a two-foot sea level rise seems insignificant, it may be detrimental to the infrastructure of coastal communities. Sewer lines, aquifers, setback regulations, and homes are all affected if flooding is a threat.

Over the last 12,000 years, the New Hampshire shoreline has migrated significantly. It has reached as far in-land as Barrington and has bordered the Isles of Shoals. In order to evaluate the sea level changes and shoreline migrations over

For the Birds...Oil Spills and Wildlife Seminar

By Brian Mazerski

Recently, NH Coastal Program "one-year veterans" Verna DeLauer and I attended an informative training session on how best to deal with rehabilitation of birds impacted by the terror of an oil spill. Several members of the Departments of Environmental Services and Fish and Game, the Coast Guard, and the Portsmouth Naval Shipyard also attended. Already trained in New Hampshire is the Piscataqua River Cooperative.

Yet, the rehabilitation of oiled birds and other wildlife requires a special expertise. Tri-State Bird Rescue & Research, Inc., a Delaware-based group who conducted the training, often deploys to slick spots around the country and the world to help mitigate the damage caused by oil disasters, large or small. It was fascinating to learn how such a team goes about its business. For instance, Tri-State would arrive and rapidly set up a facility to clean birds, medicate and feed them, and prepare them for release when ready. Pens with kiddie pools purchased from toy stores are set up to provide birds a place to take to clean water again. Other common products like a popular dish detergent (with a name the opposite of "Dusk") have been found to be the best cleaning agents to remove oil with the least impact on birds' health.

Some seminar participants received safety emphasis training: considerations for first responder careful handling in a petroleum-rich environment, com-

the years, Ward uses a computerized surface elevation model to determine the present-day threats of tidal flooding to Portsmouth, Hampton, and Seabrook. In the elevation model database, a two feet increase in sea level rise is added to the presently predicted 10-year and 100-year tidal flood levels for these communities. Analyses shows that the amount of acreage in the 10-year tidal flood zone would increase from 70 to 140 acres in Portsmouth (a 100% increase); 551 to 825 acres in Hampton (a 50% increase); and 266 to 442 acres in Seabrook (a 66% increase). The amount of acreage in the 100-year tidal flood zone would increase from 102 to 193 acres in Portsmouth (an 89% increase); 709 to 950 acres in Hampton (a 34% increase); and 367 to 517 acres in Seabrook (a 41% increase). Ward also uses the database to determine the tidal flooding risks to non-marsh land above present day sea level for all coastal municipalities.

This research guides the involved scientists to future recommendations for further research such as: verification and accuracy of the surface elevation model; assessment of the potential additional flooding that may occur during storms due to waves; assessment of the impact of erosion on beaches and dunes; and the susceptibility of tidal wetlands to sea level rise.

The report, entitled, "A Preliminary Assessment of Tidal Flooding Along the New Hampshire Coast: Past, Present and Future" can be downloaded from the New Hampshire Coastal Program's web site, www.state.nh.us/coastal. Click on "News & Events."

munications at a spill site and an incident command system. Other participants focused on initiation of an oil spill response, more considerations when working on oiled wildlife, and a table top exercise. The entire group finished the day with a session on hazing. No, not some freaky collegiate initiation…hazing here meant dispersing unoiled birds and deterring them from entering the contaminated area - thus reducing the wildlife horror stories. Though there are many different hazing techniques, our group had a blast (actually many) by firing off some noisy pyrotechnic devices.

All in all, participants rated the seminar highly in both information received and in the manner of presentation. Because our Piscataqua waters can quickly transport any spilled oil up or down river due to the active tides, any training advantage in dealing with oil spill mitigation is a boon to those trained staff, but especially for the birds!

New Hampshire Coastal Program Initiates Hampton Phragmites Mitigation Project

By Jen Drociak

The New Hampshire Coastal Program (NHCP) has initiated a Phragmites Mitigation Project designed to reduce the risk of wildfire around coastal wetlands. Over the past 25 years, Common Reed (Phragmites australis) has become a dominant plant in and around coastal wetlands growing in brackish marshes along the edge of wetlands. Phragmites flourish where tidal flow has been diminished by human impacts or where fresh water has inundated salt marshes. It is an extremely invasive plant that has moved well beyond its historic range on the landscape.

The National Fire Danger Rating System has designated this type of marsh grass as a fire hazard describing it as occurring in marsh situations where the fuel is course and reed-like. One third of the aerial portion of this plant is dead. Past fire history has shown that a Phragmites fire is a fast-moving, hot fire which can engulf adjacent structures. The plants dry easily, burn with extreme intensity and can accelerate fire travel.

Five sites in Hampton New Hampshire have been chosen as part of this project. At each of these sites, large, dense Phragmites stands are located in proximity to existing buildings. Each of these stands poses a potential wildfire risk to adjacent buildings.

The purpose of this project is to reduce the density and number of Phragmites stands. This, in turn, will reduce wildfire potential and help restore historical coastal wetlands while increasing biodiversity.

NHCP has designed a restoration plan to restore native emergent/submergent salt-tolerant vegetation to the five sites. This will include pre-restoration public outreach/education, pre-restoration site monitoring, chemical and mechanical management practices, and post-restoration site monitoring.

What Can Be Done To Prevent The Spread Of Common Reed?

Minimizing land disturbances and implementing erosion control measures are ways to prevent the further spread of common reed. The prevention of water degradation also helps to deter common reed from colonizing wetlands. Management practices that aim to avoid erosion, sedimentation, fluctuating water levels and nutrient levels adjacent to wetlands are key to long-term prevention. However, once common reed has established itself in a wetland, it is extremely difficult to eradicate. Maintaining healthy wetland ecosystems and employing best management practices will help curb this invasive, exotic species from destroying the remaining wetlands in New Hampshire, and elsewhere.

When all else fails, an EPA-registered herbicide, glyphosphate (known by the trade name as Rodeo) can be also be applied to the stands. The potential water quality impacts of applying glyphosphate are

minimal. Tests reveal that it is virtually non-toxic to all aquatic animals tested. It biodegrades quickly and completely into natural products including carbon dioxide, nitrogen, phosphate, and water. Studies also show it can be used without posing unreasonable risks to people or the environment.

This type of control is a two-year, two-step process at the very least. It is most effective when applied in the early fall when nutrients are being displaced from the leaves and stems for storage in rhizomes. A permit from the Department of Agriculture is required to purchase and/or use Rodeo in New Hampshire wetlands.

In the winter, dead stands can be cleared by controlled fire or cutting/mulching to open the area for desired species. The process usually needs to be repeated in the second year to reduce the number of remaining plants, and repeated every three to five years after that. Mechanical cutting may also contain it, and recent efforts with black plastic have had some success. In any case, there is no easy solution to the control of this aggressive species.

> Past fire history has shown that a Phragmites fire is a fast-moving, hot fire which can engulf adjacent structures. The plants dry easily, burn with extreme intensity and can accelerate fire travel.

The best way to prevent the spread of Phragmites is to preserve or re-establish adequate tidal flow to the saltmarsh. An increase of salt water to the marsh will reduce or eliminate the presence of Phragmites, since it grows primarily in freshwater or brackish marshes.

For more information on the Hampton Phragmites Mitigation Project, or on Phragmites, contact Jen Drociak at (603) 271-1774 or jdrociak@osp.state.nh.us.

Teacher Workshops at AERC

AERC

Join the Aquaculture Education and Research Center on Saturday, May 18th for a day of teacher workshops using a classroom aquaculture curriculum. Register for one workshop or the entire day. Each workshop is $35 and includes materials and curriculum. Registration for the day costs $80 and includes three workshops, a morning tour of our Hampton facility, breakfast and lunch.

Call 603/926-1650 for information. Space is limited.

Global Warming: A Critical Issue for the Future of New Hampshire

By Rachel Borgesano

www.environet.org NET National Environmental Trust

An interview with Jan Pendlebury of the New Hampshire Global Warming Campaign:

Q: What is global warming? Why is it dangerous?
A: Normally, when solar radiation (from the sun) passes through the atmosphere, it is later re-emitted into space, absorbed by the earth, or absorbed by greenhouse gases (ex. Carbon dioxide.) When greenhouse gases build up in the atmosphere more quickly than they can be removed, problems can arise. Global Warming is a result of burning fossil fuels (oil & coal). When burned fossil fuels release excess amounts of "greenhouse" gases they get trapped in our atmosphere. Because they are trapped, the suns rays, instead of absorbing the excess heat, reflect the heat back to the earth and causes a warming affect.

Q: What is the NH Global Warming Campaign?
A: The NH Global Warming Campaign began a year prior to the 1999 Presidential Primary to raise awareness of the problems of global warming. The NH Citizen's Alliance hired me to outreach and educate on the topic. Since then, I have educated on topics such as air quality, power plant emissions, children's environmental trust, the roadless forest, marine fisheries, and energy.

Q: What projects are you currently working on?
A: Currently, I am working with Senator Smith's staff on a bill having to do with power plant emissions, a major source of global warming. Primarily I am doing outreach, guest lecturing and working with the media to promote awareness of global warming.

Q: What does global warming have to do with coastal resources and the Great Bay watershed?
A: Because New Hampshire relies heavily on tourism; global warming may, in years to come, have a large effect on our coastal resources. Acid rains created from burned fossil fuels can easily seep into our water cycle and the life cycles of animals that rely on water sources especially marine life. For example, it has been found that there are high levels of Mercury (Hg) in seafoods such as tuna.
Also as the earth warms as much as 6-9 degrees Fahrenheit in the next century the sea level will also rise 2 or 3 feet destroying low lying properties and causing flooding on the seacoast area towns. It can also result in a loss of coastal wetlands and wildlife habitat. Warmer seas also contribute to algal blooms that can damage shellfish populations and be toxic to humans.
Leaf peepers will also be dismayed at the lack of color display when the seasons are out of sync, the temperatures are warmer and summertime droughts decrease the moisture in the soil needed for the health of our trees.

Q: Does NH have high greenhouse gas emissions?
A: Greenhouse gases unfortunately do not recog-

nize borders. Gases created in Pennsylvania could easily be in the atmosphere in New Hampshire. Greenhouse gasses can stay in the atmosphere for 100 years. People everywhere need to recognize the detrimental effects of these gasses everywhere.

Q: What are things that we can do to be more mindful of global warming and its effects on our earth?
A: We can do things in our every day lives to be more mindful of global warming. First we need to be aware of the causes of global warming. 70 percent of the United States' imported fuel is used for gasoline. It is important to support legislature for cleaner fuels and to investigate the types of fuels your vehicles are currently using. SUV's for example are very wasteful of fuel. Carpooling and taking the bus are great alternatives. Use low wattage and energy efficient light bulbs when you can. Encourage cleaner technologies, get cars tuned up and keep tires inflated.

For more information on this topic please refer to the National Environmental Trust website at www.environet.org

The Downstream Defender: Protecting Water Quality

By Joanne McLaughlin

The Downstream Defender: Protecting Water Quality for the City of Portsmouth
The City of Portsmouth received a $50,000 grant from the New Hampshire Coastal Program to reduce nonpoint pollution from Pierce Island to the Piscataqua River. This project implemented the initial phase of the 1999 Pierce Island Master Plan.

The project included the removal of unneeded pavement, the reclamation of two acres of green space by grading and seeding areas with compacted soils, the construction of a designated parking area to prevent further soil compaction and erosion, and the collection and treatment of storm water runoff from the paved area. The parking area provides public access to walking trails, the outdoor municipal pool, fishing, and waterfront viewing.

On October 24, 2001, the City installed the Downstream Defender, designed by HIL Technology of Portland, Maine. The Defender collects and treats storm water runoff from the parking area. The state-of-the-art unit, which has no moving parts and requires no external power source, removes solids that settle, floatables, oils and grease from storm water runoff prior to discharging to the Piscataqua River. This nonpoint source pollution project not only minimized potential erosion sources, but also removed other pollutants from the storm water that had been getting into the river.

Photo courtesy of Joanne McLaughlin

The City recently applied to the New Hampshire Coastal Program again for funds to stabilize shorelines on the northern end of the island, and to create a shore front trail and waterfront overlook, as the next implementing phase of the Pierce Island Master Plan.

New Coastal Program Employee

Jen Drociak has just been hired as Wetland Restoration Specialist. She has a Bachelor of Science in Environmental Conservation from the University of New Hampshire. Jen previously worked in the Pollution Prevention Program at the Department of Environmental Services (DES). She managed the program's web page, newsletter and the New Hampshire Marina Project. Jen also worked part-time for the Watershed Management Bureau of DES from 1997-1999. In addition, she has worked for the New Hampshire Audubon Society as an environmental educator and at the Merrimack River Watershed Council. She is on the Manchester Conservation Commission and is involved in the city's Urban Pond Restoration Program. Jen enjoys botany, freshwater ecology, gardening, hiking and mucking around in wetlands.

Local News

2nd Annual Exeter River Alewife Festival

Saturday, May18, 10:00 AM to 2:00 PM
Swazey Park in Exeter
Rain or Shine

Come celebrate the Exeter River's rich history and natural resources. Witness the annual migration of alewives and other fish as they swim from the sea to their freshwater spawning habitat. Enjoy river-inspired art, music, food, vendors, and educational activities designed to heighten appreciation of this special river. For kids and adults. Free.

Sponsored by
the Exeter River Local Advisory Committee
603-774-0885

NH Estuaries Project News

152 Court Street, Portsmouth, NH | www.state.nh.us/nhep
Cynthia McLaren, Director

SEACOAST LAND TRUST CONDUCTS RESOURCE MAPPING

by Danna B. Truslow, Executive Director for the Seacoast Land Trust

Seacoast Land Trust (SLT) received funding from NH Estuaries Project (NHEP) to prepare resource maps for two critical watersheds in the Seacoast - Sagamore Creek and Berry's Brook, respectively. In addition to producing maps, a major goal of the project was to increase cooperation among municipalities, interested SLT board and members.

Four preliminary maps were developed that displayed a range of features including stratified drift aquifers, water supply sources, drinking water protection areas, 100 year flood zone, 200' riparian & wetland buffer zones, NWI wetlands, and soils classified by development potential. In addition, the maps included the watershed boundaries, political features, roads, lot lines and existing conservation lands. A base map was created from orthogonal aerial photographs (ortho photos).

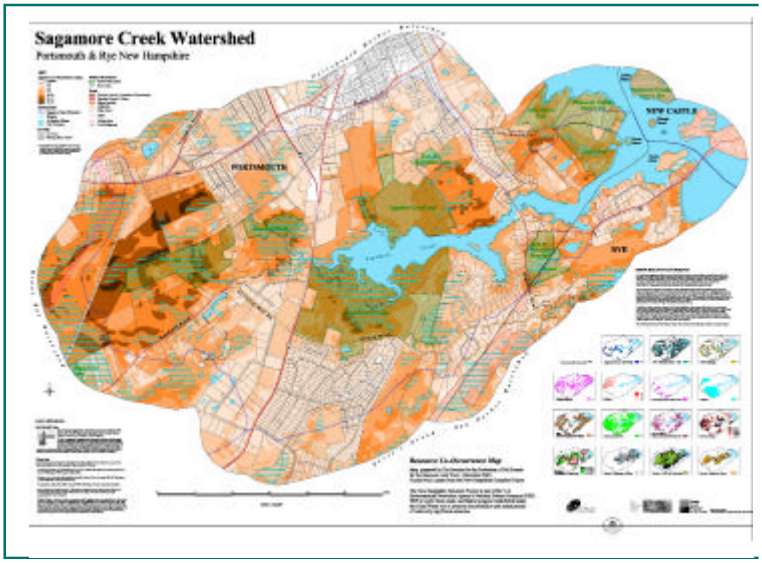
Resource mapping priorities and numerical rankings were developed for the Sagamore Creek and Berry's Brook watersheds. Resource features that were ranked included: riparian and wetland buffer zones, wetlands, habitat, water resources, soils, and natural cover. Values were also developed for the following parcel characteristics: size, proximity to conservation lands, proximity to the watershed's main stream or river, and view (parcels having important views).

When the ranking was complete, a co-occurrence map for each watershed was produced. Co-occurrence was mathematically derived by adding all the resource values in the areas where the resources occurred. The values for each unit of mapped area were based on the rankings above.

In addition to the overall co-occurrence maps, smaller maps representing scores by parcel were also developed. The top 35 parcels were numbered and displayed on smaller scale maps as a guide to land protection priorities. Spreadsheet tables were also developed showing the criteria and ranking for each parcel in the watershed.

The SLT is using these maps to prioritize land protection efforts and illustrate the value of land protection to municipalities and landowners. Community outreach is now underway with presentations at conservation commission, planning board and selectmen's meetings. Landowner workshops will be offered to show the results of the mapping efforts and provide landowners with conservation options for future land planning.

These illustrations go beyond words to show interested parties the tangible value of shrinking land resources in the Seacoast. SLT plans to build on this project and map the remaining watersheds in a similar fashion over the coming year.



Hampton/Seabrook Juvenile Clam Mortality Study

By Sally Soule

Clam abundance has dwindled, and surveys of the Hampton/Seabrook flats suggest that the limiting factor for a sustainable fishery is poor juvenile survival. The New Hampshire Estuaries Project funded a study that examines environmental and biological factors that may be important in resolving the mystery of the missing clams.

Dr. Brian Beal, Associate Professor of Marine Ecology at the University of Maine at Machias (UMM) was awarded the $26,781 grant. "For more than twenty years, Normandeau Associates have been monitoring clam abundances at three flats within the Hampton/Seabrook Estuary," Beal says. " Since 1996, they have reported a trend of decreasing densities of harvestable clams while at the same time they have seen no comparable decline in the very smallest clams." What happens to soft-shell clams during their first year of life is the question Beal and his students are pursuing.

The marine scientists took shallow depth samples (cores) at the three flats last November to establish abundances of young-of-the-year clams. In "high energy" environments where sand movement is greatest during high tides, they found less than one clam per square foot. In more stable, "lower energy" sections of the flats, they found approximately four clams per square foot. Clams ranged in size from an eighth of an inch to around three quarters of an inch, but average size was about one-quarter of an inch. Also, they devised a field experiment using juvenile clams cultured last summer at a public shellfish hatchery located 20 miles from the UMM campus (Beals Island Regional Shellfish Hatchery). Beal has worked with staff at the Hatchery and clammers to enhance stocks of clams along the Maine coast from Kittery to Eastport. "During this time, I have conducted numerous field trials using cultured clams and have found that their growth and survival is comparable to wild seed," he says.

The Hampton/Seabrook field test, also initiated in November, examines the effects of stocking density, predators, and tidal position on the fate and growth of the cultured clams. Clams were added to 6-inch plastic plant pots that had been dug into the flats and filled with adjacent sediments. Pots were positioned near the upper and lower tidal levels on each of the three flats. Some pots received a piece of plastic netting to deter predators such as bottom-feeding fish and green crabs. The scientists planted 6,048 clams averaging a little less than one-half an inch that were arrayed in 360 pots.

Beal returns to the flats in late March to sample their experiment and begin another, identical field test. "These experiments will allow us to determine whether clam losses are seasonal and how important predation is from one tidal height to another," he says. "Also, these studies will enable us to examine whether the same biological processes operate at each of the three flats." Dr. Beal will issue a report on the results of his study by this fall.

For more information about the clam study, please contact the NHEP at (603) 433-7187.

NHEP Funds Coastal Watershed Projects

By Sally Soule

The New Hampshire Estuaries Project (NHEP) is pleased to announce its 2002 grant recipients. The grants provide over $220,000 in funding to projects that address natural resource issues throughout the coastal watershed. Grants were awarded on a competitive basis to municipalities, community groups, educational initiations, and state agencies. Each project is consistent with the NHEP's goals and helps implement Actions within the Management Plan. Brief descriptions of the projects follow.

Local Grants Program

Bear-Paw Regional Greenways: Natural Resources, Wildlife Habitat, and Conservation Priorities Mapping Project
Awarded: $5,897.50

Bear-Paw will produce GIS maps that will include natural resource maps, wildlife habitat, and composite maps that include a variety of data layers. Tax parcel data and town boundaries will be mapped as well. Bear-Paw will use the maps to refine conservation targets, and assist in outreach efforts. Outreach programs will encourage conservation easements by landowners, and town assessments of community development patterns.

Town of Exeter: Stormdrain Stenciling
Awarded: $3,381

The Exeter Public Works Department will recruit volunteers to conduct storm drain stenciling and promote voluntary pollution prevention. Educational materials such as flyers, t-shirts, restaurant placements and magnets will be developed for distribution. Stenciling is planned for three highly traveled areas: a parkway along the Exeter River; an area near the train station and an elementary school; and a residential neighborhood.

Aquaculture Education and Research Center (AERC): Shellfish Outreach Project
Awarded: $9,795

AERC will present public workshops about shellfish conservation, natural history, and local issues. AERC will also enhance an existing school curriculum by adding shellfish information and activities. In addition, AERC will partner with Sandy Point Discovery Center to develop and present a field-based shellfish workshop. Press releases and newspaper columns devoted to shellfish will complement outreach activities.

Lamprey and Oyster River Watershed Association and Lamprey River Advisory Committee: River Stewardship Outreach Program
Awarded: $7,060

The project's partners will conduct outreach to landowners and municipal officials to enhance protection of riparian buffers. The project will begin with a workshop to introduce general information about the importance of buffers. A series of in-depth programs related to specific land-use types and buffers will follow the general workshop.

Exeter River Local Advisory Committee (ERLAC): Increasing Public Participation at the 2nd Annual Alewife Festival
Awarded: $3,500

ERLAC will use grant funds to develop a publicity campaign that will increase public participation at its annual Alewife Festival. The Festival celebrates the Exeter River and provides an opportunity for residents to learn more about the river's ecology and history.

Land And Habitat Protection Program

Bear-Paw Regional Greenways: Land Protection Expertise, Technical Assistance, and Conservation Outreach Project
Awarded: $4,876

This project will strengthen Bear-Paw's capacity to complete land protection projects, provide land protection assistance to towns, and increase community support for conservation. To complete the project, Bear-Paw will hire a legal professional and a land conservation consultant. These specialists will provide expertise in drafting and reviewing conservation easements, assist with technical assistance.

Rockingham County Conservation District (RCCD): Spruce Swamp Protection Project Awarded: $6,400

This project will provide technical assistance for land conservation efforts directed at protecting over 2000 acres of wetlands-Spruce Swamp-in the towns of Freemont and Brentwood. RCCD will provide education and outreach to targeted landowners. Public workshops will provide information about the swamp's habitat, resources, and biodiversity.

Rockingham Land Trust (RLT): Development of a Technical Assistance and Outreach Program for Landowners and Municipalities Awarded: $9,500

RLT will work with landowners and municipalities in the upper Exeter River watershed to increase the amount of permanently protected habitat. RLT staff will contact landowners to educate about the importance of protecting large, contiguous habitat blocks. RLT will also help landowners and conservation commissions successfully place easements on undeveloped land.

Great Bay Resource Protection Partnership: Support for the Partnership Coordinator Requested: $20,000

This project will support the Coordinator position of the Great Bay Resource Protection Partnership (GBRPP) to increase the amount of protected, significantly important wildlife habitat in the Great Bay region of New Hampshire. The GBRPP Coordinator position will be partially funded over a twelve-month period, and will provide service to the GBRPP in the areas of communication, outreach and education; land conservation; and ownership and management of GBRPP land.

Society for the Protection of NH Forests: General Fund for Land Protection Awarded: $44,000

This project establishes a General Fund to support projects that protect natural resources and significant habitat in the coastal watershed. Interested landowners or recipients must submit an "Application for Land Protection Transaction Assistance." Up to $3,000 per application will be available to cost-share transaction expenses, including surveys, appraisals, and legal fees. Funds will be awarded through an application and review process.

NH Fish & Game Nongame and Endangered Wildlife Program: Wildlife Ecologist Support for Identifying and Protecting Wildlife Habitat in the Great Bay Region Awarded: $15,000

NH F&G will conduct outreach to the communities in the Piscassic and Lamprey watershed that will interpret significant wildlife habitat maps developed under a 2001 NHEP grant to the Great Bay Partnership. F&G staff will provide assistance in using the maps to prioritize and implement habitat protection. F&G staff will also work with 3 additional communities in the watershed, determined by the NHEP Land Use Team, to use the F&G manual, "Identifying and Protecting Significant Wildlife Habitat."

Special Projects

1. Granite State Designers and Installers (GSDI): Public Workshops on Septic System Maintenance and Alternative Technologies Awarded: $9,700

GSDI will conduct 6 public workshops for property owners with septic systems in the Great Bay watershed and coastal areas of NH. The workshops will explain

how septic systems function, "dos and don'ts" of systems, maintenance, and alternative systems.

2. New Hampshire Coastal Program: Freshwater Wetland Restoration Awarded: $30,000

NHEP will work with the NH Coastal Program to hire a consultant who will inventory and identify 16-24 wetland restoration opportunities in each NHEP Zone A community (4-6 opportunities will be identified for each of four wetland mitigation categories: buffer protection, restoration, enhancement and mitigation). NHCP will conduct meet with each community that to discuss the inventory, identify funding opportunities, and introduce model ordinance and state mitigation rules.

3. Complex Systems Research Center (CSRC): Impervious Surface Estimates for Coastal NH Awarded: $21,483

CSRC will develop estimates of impervious surface acreage for 1990 and 2000 for the Zone A and Zone B communities. Estimates will calculate rates of impervious surface increase. The calculation will use a method developed through a pilot study with the NH Coastal Program based on sub-pixel processing to provide better resolution data. CSRC will also analyze a small amount of high-resolution imagery and compare the results of the two processes. Impervious surface acreages will be calculated for each municipality and each second order watershed.

STORMWATER INFRASTRUCTURE MAPPING GRANTS

These projects will result in the development of municipal stormwater infrastructure maps. These maps are used in identifying and eliminating illicit connections, monitoring and maintaining stormwater infrastructure, and various stormwater management activities. In addition, maps are required by EPA's new Phase II stormwater regulations. These projects will assist four municipalities in developing these maps.

1. Town of Newmarket
Awarded: $8,990

2. City of Rochester
Awarded: $11,000

3. Town of Exeter
Awarded: $12,020

4. Town of Durham
Awarded: $5,605

For more information about any of the projects listed here, please contact the NHEP at (603) 433-7187.

Photo courtesy of Joanne McLaughlin

Comprehensive Shoreland Protection Act Training for Municipal Officials

This spring the NHEP is working with Gary Springs of the New Hampshire Department of Environmental Services to provide Comprehensive Shoreland Protection Act training for municipal officials in the seacoast region.

The workshops cover the basics of the Act: areas of jurisdiction, restrictions, and enforcements. The session also discusses the Act's ecological benefits including erosion and polluted runoff prevention. Workshops are scheduled for Seabrook, Hampton Falls, Hampton, North Hampton, Dover, Rollinsford, Madbury, Rye, Greenland, Portsmouth, New Castle, Newington, Exeter, Newfields, and Stratham.

If you are interested in learning more about the workshops or hosting a workshop for your community, please contact Mary Power or Sally Soule at the NHEP office: (603) 433-7187.

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Editorial Policy: We accept articles and photographs tha are informative and have a story format. All must pertai to New Hampshire.